

# Claims

[c1] WHAT IS CLAIMED IS:

1.A device for determining and controlling a bale length on a pick-up baler for agricultural harvested material, the device comprising:

a pick-up device;

a feed channel connected to the pick-up device;

a pressing channel connected to the feed channel;

a conveying device arranged downstream of the pick-up device for conveying the harvested material through the feed channel into the pressing channel, wherein a conveying action for the harvested material for conveying the harvested material from the feed channel into the pressing channel is carried out by a feed stroke that is controlled based on a degree of filling of the feed channel;

a pressing piston arranged within the pressing channel and movable reciprocatingly for compacting the harvested material by a pressing stroke;

a tying device for tying the finished bale with tying material;

at least one sensor detecting a bale growth resulting by compression of the harvested material conveyed by the

feed stroke from the feed channel into the press channel and the subsequent pressing stroke;  
an electronic evaluation device connected to the at least one sensor, wherein the at least one sensor supplies a bale growth value to the electronic evaluation device, wherein the bale growth value is converted into at least one of an averaged operand and a statistical operand for determining a required number of the feed strokes for approximately reaching a preset nominal bale length, wherein, after completion of the computed nominal number of feed strokes, the binding device is triggered.

- [c2] 2. The device according to claim 1, wherein the conveying device comprises a cutting device.
- [c3] 3. The device according to claim 1, further comprising a remote-control operating unit for presetting the nominal bale length.
- [c4] 4. The device according to claim 1, wherein the at least one sensor for detecting the bale growth measures an actual length change of the bale after completion of the feed stroke and the subsequent pressing stroke of the pressing piston.
- [c5] 5. The device according to claim 1, wherein the at least one sensor comprises a thumb wheel contacting the bale

and movement sensors interacting with the thumb wheel.

- [c6] 6. The device according to claim 1, wherein the at least one sensor is configured to measure the bale growth indirectly by measuring a length of removed tying material.
- [c7] 7. A method for determining and controlling a bale length on a pick-up baler for agricultural harvested material according to claim 1, the method comprising the steps of:  
detecting bale growth steps with at least one sensor, wherein each bale growth step is defined by a feed stroke moving harvested material from the feed channel into the pressing channel and a subsequent pressing stroke compressing the harvested material;  
measuring with a sensor a bale growth for each bale growth step and sending measured values of bale growth to an electronic evaluation device;  
converting the measured values of bale growth in the electronic evaluation device into at least one of an averaged operand and a statistical operand;  
calculating with a selectable algorithm a number of nominal feed strokes in the electronic evaluation device based on the at least one averaged operand and statistical operand and at least a pre-selected nominal bale

length;

comparing in the electronic evaluation device the number of actual feed strokes carried out in the bale growth steps with the number of nominal feed strokes and, upon reaching the number of nominal feed strokes, triggering the tying device.

- [c8] 8. The method according to claim 7, wherein the step of calculating is repeated each time the bale growth has been measured.
- [c9] 9. The method according to claim 7, wherein, in the step of calculating, parameters of properties of the harvested material are incorporated.
- [c10] 10. The method according to claim 7, wherein, in the step of calculating, machine data of the device are incorporated.
- [c11] 11. The method according to claim 7, further comprising the steps of storing an initial number of feed strokes carried out after complete emptying of the pressing channel and before a first bale growth is measured and incorporating the initial number of feed strokes in the step of calculating the number of nominal feed strokes.